



Iowa Influenza Surveillance Network (IISN)

Influenza-like Illness (ILI) and Other Respiratory Viruses

Weekly Activity Report

For the week ending December 31, 2016 - Week 52



All data presented in this report are provisional and may change as additional reports are received

Quick Stats	
Percent of outpatient visits for ILI ¹	1.57% (baseline 1.8%)
Percent of influenza rapid test positive	11.46% (126/1099)
Percent of RSV rapid tests positive	18.26% (42/230)
Percent school absence due to illness ²	0.00% (No Schools in Session)
Number of schools with ≥10% absence due to illness	0 (No Schools in Session)
Influenza-associated hospitalizations ³	30/5555 inpatients surveyed
Influenza-associated mortality -all ages (Cumulative) ⁴	3
Influenza-associated pediatric mortality (Cumulative)	0

¹ ILI: Influenza-like illness is defined as a fever of ≥100° F as well as cough and/or sore throat.
² Percent school absence due to illness are reported through a weekly survey of Iowa sentinel schools
³ Hospitalizations due to influenza are voluntarily reported through a weekly survey of Iowa sentinel hospitals
⁴ Deaths in which influenza is listed on the death certificate. This is an underestimate of influenza-related deaths.
 Cumulative is 10/2/2016-current week.

Iowa Influenza Geographic Spread ⁵
No Activity
Sporadic
Local
Regional
Widespread

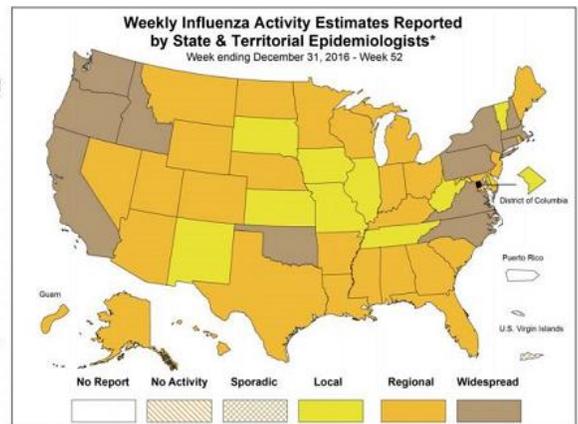
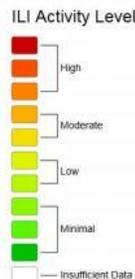
⁵This is based on CDC's activity estimates definition www.cdc.gov/flu/weekly/overview.htm

Iowa statewide activity summary:

Influenza activity in Iowa is increasing. The geographic spread of influenza in Iowa is local. For this reporting week, the State Hygienic Laboratory confirmed 50 influenza A(H3), two influenza B(Victoria Lineage) and four influenza B(Yamagata Lineage) viruses from submitted samples. 30 influenza-related hospitalizations were reported from sentinel hospitals during this reporting week. The proportion of outpatient visits due to influenza-like illness (ILI) was 1.57 percent, which is below the regional baseline. In this reporting week, 14 adenovirus, one parainfluenza virus type 1, three parainfluenza virus type 2, 14 parainfluenza virus type 3, 36 rhinovirus/ enterovirus, 26 RSV, two hMPV and 36 Coronavirus were detected from surveillance sites.

National activity summary - (CDC)-Last Updated in Week 52:

Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
2016-17 Influenza Season Week 52 ending Dec 31, 2016



* This map indicates geographic spread & does not measure the severity of influenza activity

Synopsis: During week 52 (December 25-December 31, 2016), influenza activity increased in the United States.

Viral Surveillance: The most frequently identified influenza virus type reported by public health laboratories during week 52 was influenza A (H3). The percentage of respiratory specimens testing positive for influenza in clinical laboratories increased.

Pneumonia and Influenza Mortality: The proportion of deaths attributed to pneumonia and influenza (P&I) was below the system-specific epidemic threshold in the National Center for Health Statistics (NCHS) Mortality Surveillance System.

Influenza-associated Pediatric Deaths: No influenza-associated pediatric deaths were reported.

Outpatient Illness Surveillance: The proportion of outpatient visits for influenza-like illness (ILI) was 3.4 percent, which is above the national baseline of 2.2 percent. Nine regions reported ILI at or above their region-specific levels. New York City, Puerto Rico and ten states experienced high ILI activity; ten states experienced moderate ILI activity; five states experienced low ILI activity; 25 states experienced minimal ILI activity and the District of Columbia had insufficient data.

Geographic Spread of Influenza: The geographic spread of influenza in 12 states was reported as widespread; Guam and 28 states were reported as regional; the District of Columbia and 10 states reported local activity; the U.S. Virgin Islands reported sporadic activity; and Puerto Rico did not report.

Detailed information can be found online at www.cdc.gov/flu/weekly/.

International activity summary - (WHO):

Influenza activity in the temperate zone of the northern hemisphere increased slightly, with some countries passing their seasonal threshold, which is early for the season. The predominant strain of influenza worldwide is influenza A(H3). Detailed information can be found online at www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/. It was last updated 12/26/2016.

Laboratory surveillance program:

The State Hygienic Laboratory (SHL) is the primary lab for influenza testing and reporting in Iowa. SHL reports the number of tests performed and the type and sub-type of positive tests to the influenza surveillance network several times every week. In addition, SHL surveys clinical and reference labs on a weekly basis for the number of rapid-antigen tests performed, the number positive and the positive non-influenza virus tests. This report also includes the positive non-influenza virus tests reported from the Dunes Medical Laboratories at Mercy Medical Center in Sioux City.

Table 1: Influenza A viruses detected by SHL by age group

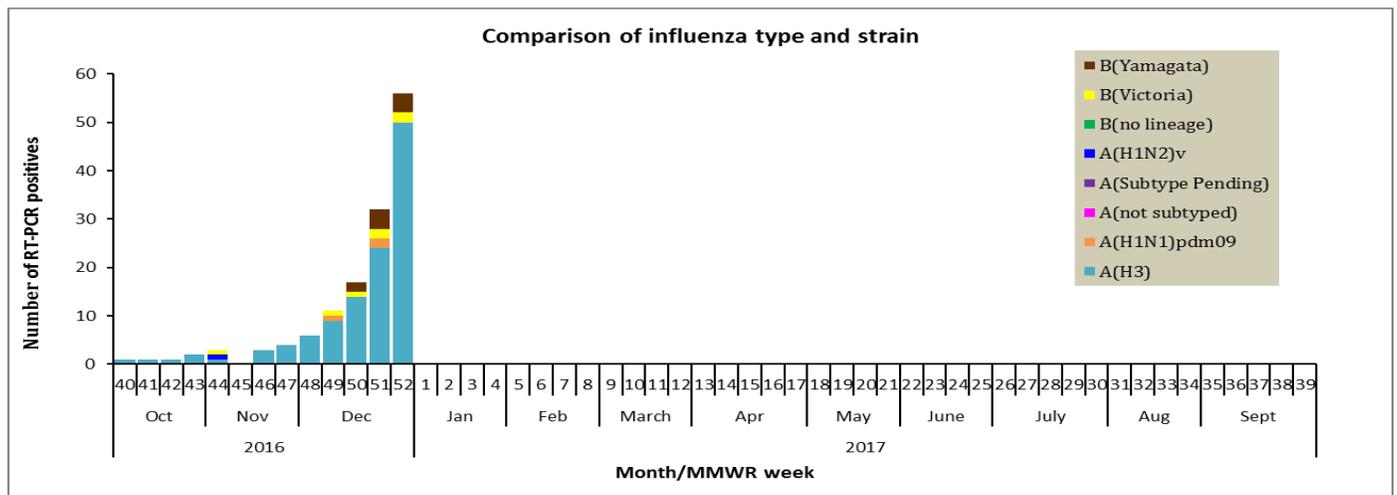
Age Group	CURRENT WEEK					CUMULATIVE (10/2/16 – CURRENT WEEK)				
	Flu A					Flu A				
	A(H1N1)pdm09	A(H3)	A(H1N2)v	Subtype Pending	Not subtyped	A(H1N1)pdm09	A(H3)	A(H1N2)v	Subtype Pending	Not subtyped
0-4	0(0%)	5(10%)	0(0%)	0(0%)	0(0%)	0(0%)	10(9%)	0(0%)	0(0%)	0(0%)
5-17	0(0%)	3(6%)	0(0%)	0(0%)	0(0%)	2(67%)	22(19%)	0(0%)	0(0%)	0(0%)
18-24	0(0%)	9(18%)	0(0%)	0(0%)	0(0%)	0(0%)	18(15%)	0(0%)	0(0%)	0(0%)
25-49	0(0%)	9(18%)	0(0%)	0(0%)	0(0%)	0(0%)	17(15%)	0(0%)	0(0%)	0(0%)
50-64	0(0%)	5(10%)	0(0%)	0(0%)	0(0%)	1(33%)	14(12%)	1(100%)	0(0%)	0(0%)
>64	0(0%)	19(38%)	0(0%)	0(0%)	0(0%)	0(0%)	35(30%)	0(0%)	0(0%)	0(0%)
Total	0	50	0	0	0	3	116	1	0	0

*Counts of three or less are sometimes suppressed to protect confidentiality. Note that counts may not add up to the total due to missing age information
Only cases of Iowa residents are included
"Not subtyped" column is due to weak detections. This can be due to poor collection, timing of collection or stage of infection.

Table 2: Influenza B viruses detected by SHL by age group

Age Group	CURRENT WEEK			CUMULATIVE (10/2/16 – CURRENT WEEK)		
	Flu B			Flu B		
	Victoria Lineage	Yamagata Lineage	Lineage Pending	Victoria Lineage	Yamagata Lineage	Lineage Pending
0-4	0(0%)	1(25%)	0(0%)	1(14%)	1(10%)	0(0%)
5-17	0(0%)	2(50%)	0(0%)	4(57%)	2(20%)	0(0%)
18-24	1(50%)	0(0%)	0(0%)	1(14%)	0(0%)	0(0%)
25-49	1(50%)	0(0%)	0(0%)	1(14%)	4(40%)	0(0%)
50-64	0(0%)	0(0%)	0(0%)	0(0%)	2(20%)	0(0%)
>64	0(0%)	1(25%)	0(0%)	0(0%)	1(10%)	0(0%)
Total	2	4	0	7	10	0

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Only cases of Iowa residents are included

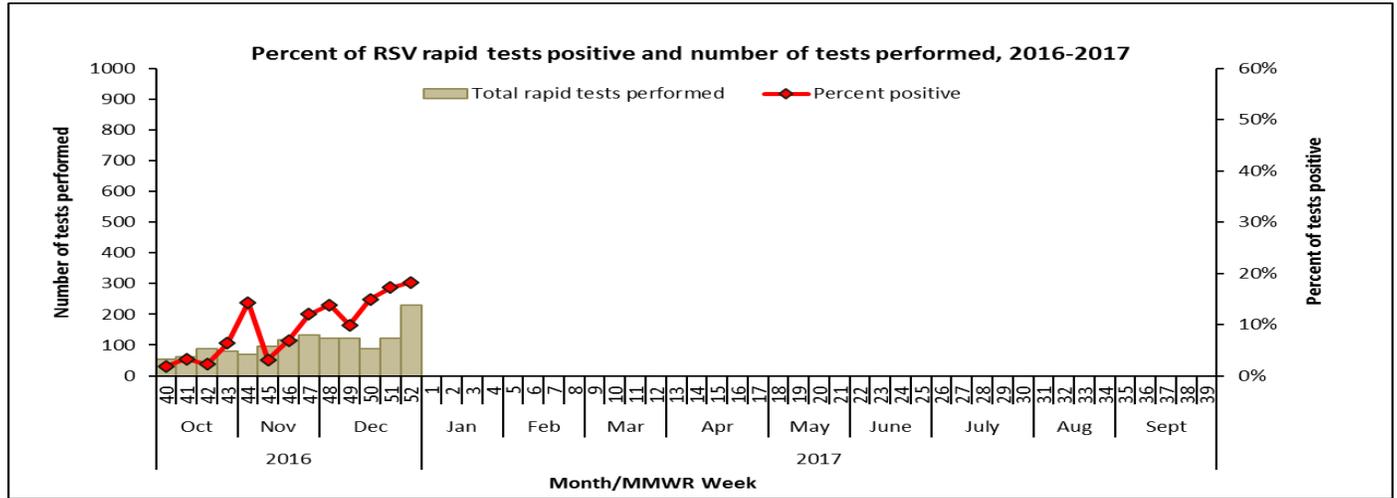
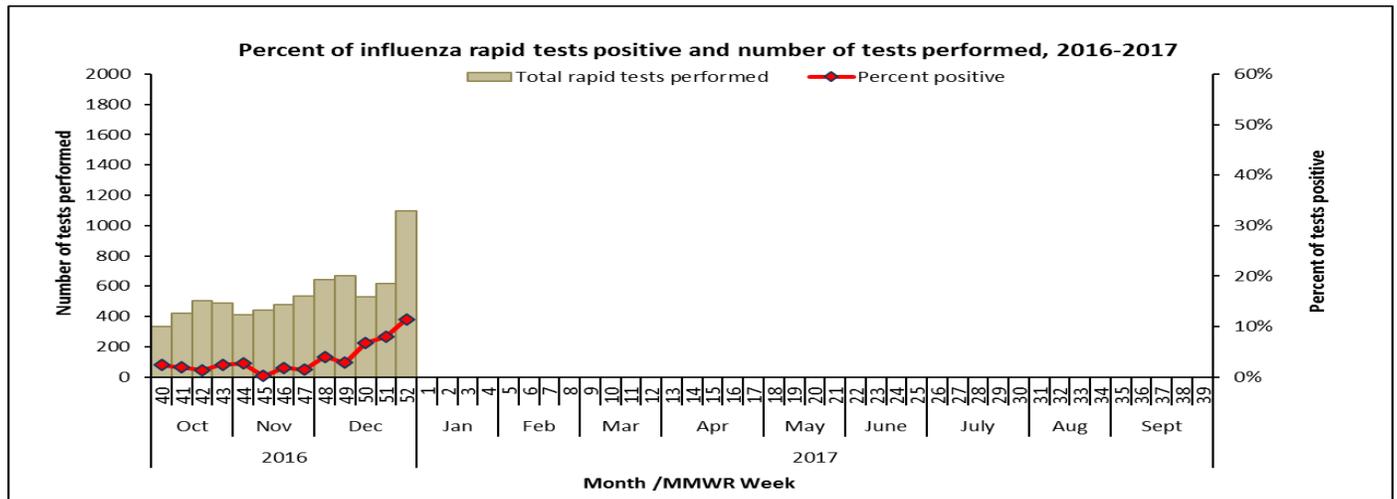


Rapid influenza and RSV test surveillance:

The State Hygienic Laboratory (SHL) runs a weekly web-based survey program where laboratorians report the number of influenza and respiratory syncytial virus (RSV) rapid tests performed and the number of tests positive. This table includes only the number of patients tested for influenza or RSV at laboratory surveillance sites throughout the state. This table does not provide case counts.

REGION*	RAPID ANTIGEN INFLUENZA TESTS				RAPID ANTIGEN RSV TESTS		
	Tested	Flu A	Flu B	% Positive	Tested	Positive	% Positive
Region 1 (Central)	143	11	1	8	13	0	0
Region 2 (NE)	45	8	0	18	12	1	8
Region 3 (NW)	224	16	8	11	74	18	24
Region 4 (SW)	115	24	0	21	19	8	42
Region 5 (SE)	152	16	1	11	29	2	7
Region 6 (Eastern)	420	34	7	10	83	13	16
Total	1099	109	17	11	230	42	18

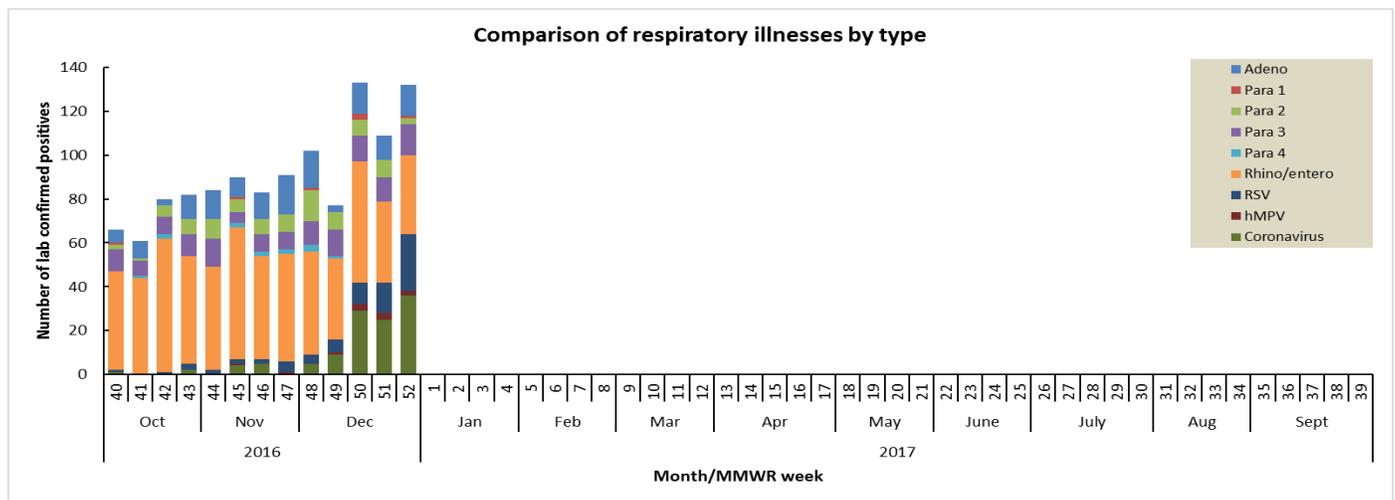
*Region 1- Boone, Calhoun, Carroll, Dallas, Greene, Grundy, Hamilton, Hardin, Jasper, Marshall, Polk, Poweshiek, Story, Tama, Warren, Webster; Region 2- Allamakee, Bremer, Butler, Cerro Gordo, Chickasaw, Emmet, Fayette, Floyd, Franklin, Hancock, Howard, Humboldt, Kossuth, Mitchell, Winnebago, Winneshiek, Worth, Wright; Region 3- Buena Vista, Cherokee, Clay, Crawford, Dickinson, Ida, Lyon, Monona, O'Brien, Osceola, Palo Alto, Plymouth, Pocahontas, Sac, Sioux, Woodbury; Region 4- Adair, Adams, Audubon, Cass, Clarke, Decatur, Fremont, Guthrie, Harrison, Madison, Mills, Montgomery, Page, Pottawattamie, Ringgold, Shelby, Taylor, Union; Region 5- Appanoose, Davis, Des Moines, Henry, Jefferson, Keokuk, Lee, Louisa, Lucas, Mahaska, Marion, Monroe, Muscatine, Van Buren, Wapello, Washington, Wayne; Region 6- Benton, Black Hawk, Buchanan, Cedar, Clayton, Clinton, Delaware, Dubuque, Iowa, Jackson, Johnson, Jones, Linn, Scott.



Non-influenza respiratory viruses:

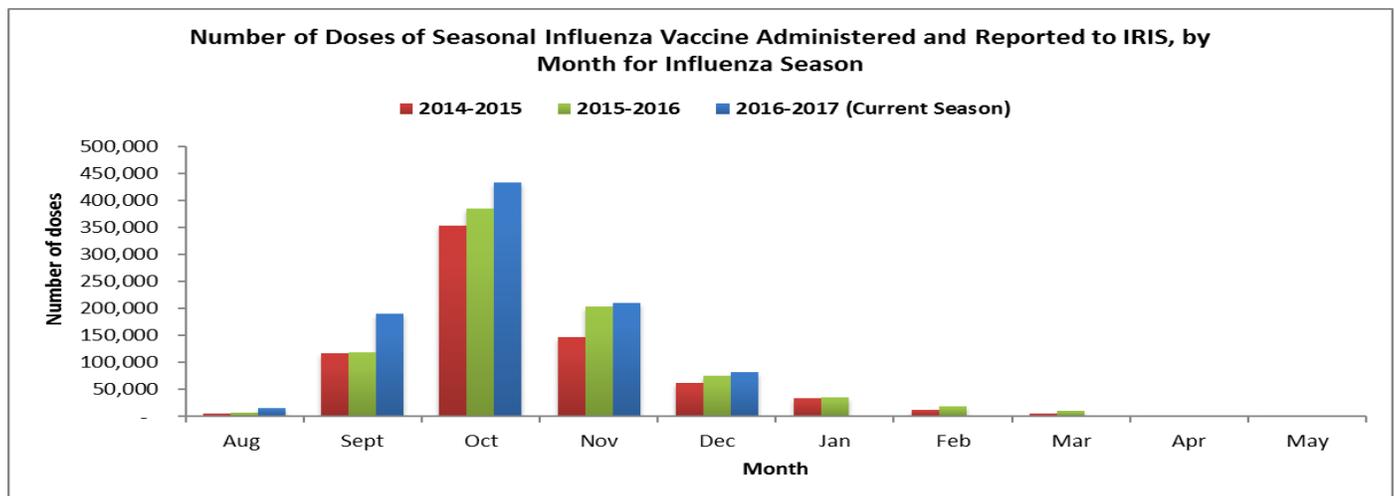
The State Hygienic Laboratory (SHL) runs a weekly web-based survey program where laboratorians report the number of positive tests for non-influenza respiratory viruses. This table also includes the positive non-influenza virus tests reported from the Dunes Medical Laboratories at Mercy Medical Center in Sioux City. The table includes only the number of positive tests at laboratory surveillance sites throughout the state. The table does not provide case counts.

Viruses	CURRENT WEEK	CUMULATIVE (10/2/16 – CURRENT WEEK)
Adenovirus	14	139
Parainfluenza Virus Type 1	1	7
Parainfluenza Virus Type 2	3	85
Parainfluenza Virus Type 3	14	129
Parainfluenza Virus Type 4	0	13
Rhinovirus/Enterovirus	36	614
Respiratory syncytial virus (RSV)	26	76
Human metapneumovirus (hMPV)	2	11
Coronavirus	36	116
Total	132	1190



Seasonal influenza vaccination:

Seasonal influenza vaccination data in Iowa is based on doses reported to the Iowa Immunization Registry Information System (IRIS). IRIS is a confidential, computerized, population-based system that tracks immunization for children, adolescents and adults who are seen in a variety of public and private healthcare provider sites throughout the state of Iowa. For more information on the immunization data, contact Kim Tichy, IRIS coordinator at 515-281-4288 or kimberly.tichy@idph.iowa.gov.

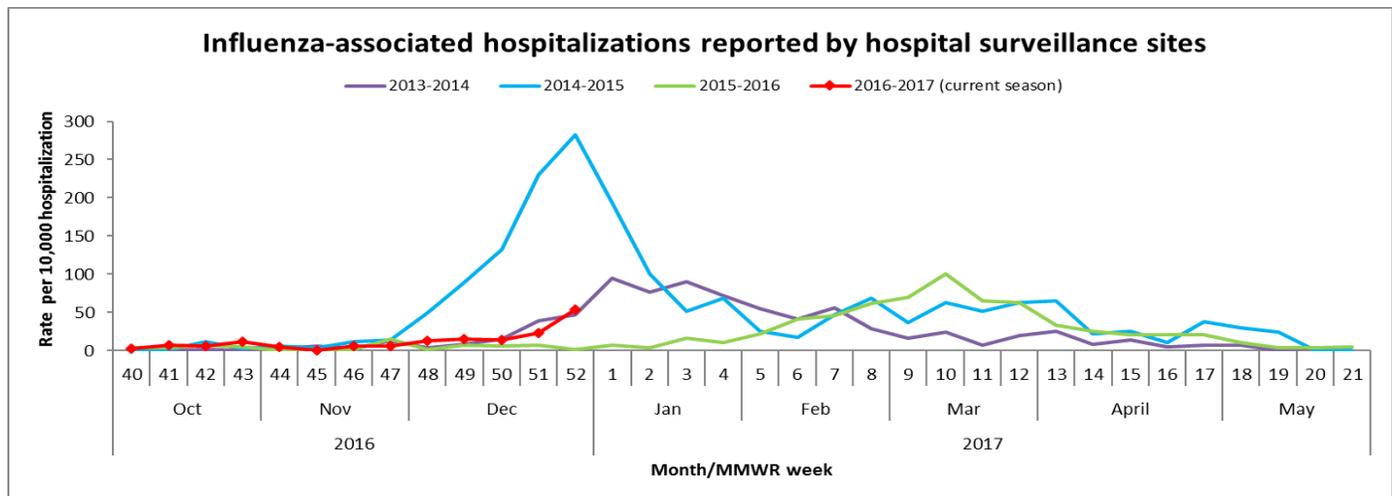
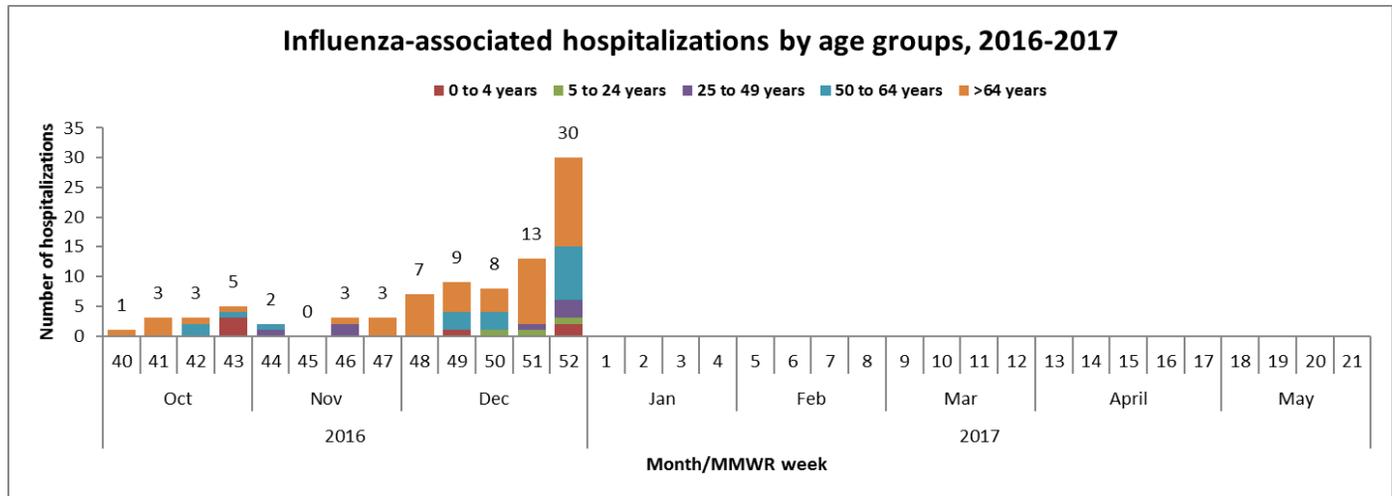


Note: The data for the 2016-2017 season is only up to the current week and there is a lag between the vaccine administration date and the date reported to the IRIS. The current season's data will be adjusted as additional data is received.

Influenza-associated hospitalizations:

Sentinel hospitals that participate in IISN voluntarily track and report the number of influenza-associated hospitalizations and the total number of inpatients each week. Of the 126 hospitals across the state of Iowa, 27 sentinel hospitals participate in weekly surveillance of influenza-associated hospitalizations for the IISN. Iowa hospitals interested in joining this surveillance program should contact Scott Seltrecht at 515-281-4985 or Scott.Seltrecht@idph.iowa.gov for more information.

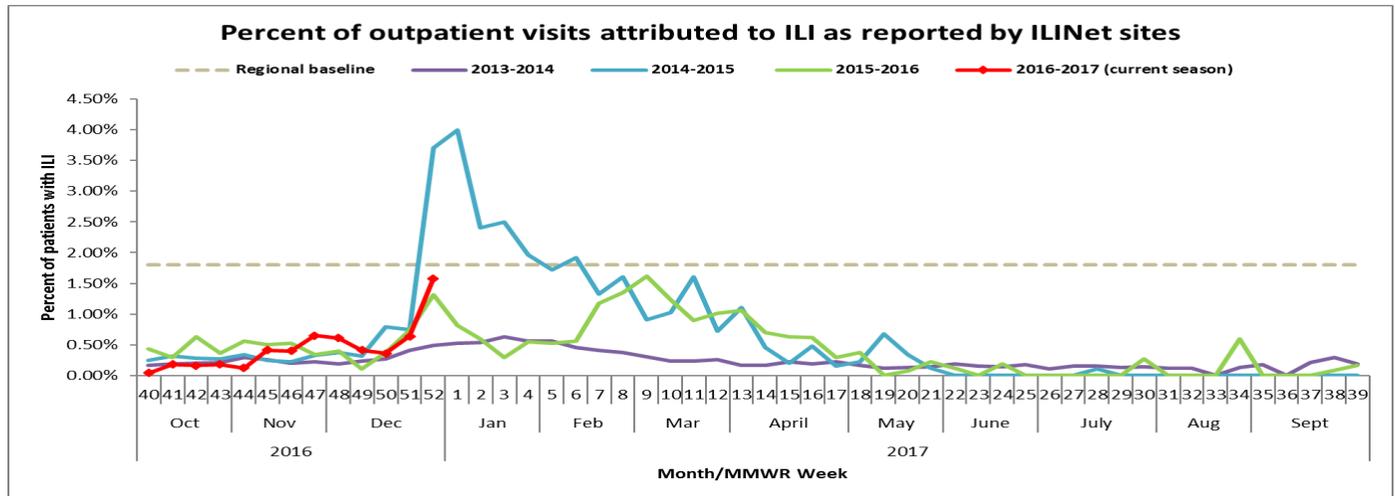
AGE	CURRENT WEEK	CUMULATIVE (10/2/16 – CURRENT WEEK)
Age 0-4	2	6
Age 5-24	1	3
Age 25-49	3	7
Age 50-64	9	19
Age >64	15	52
Total	30	87



Outpatient health care provider surveillance program (ILINet):

Outpatient health care providers who participate in the ILINet (a national influenza surveillance program) report the number of patients seen with influenza-like illness and the total number of patient visits each week. This system is a key part of Iowa's influenza surveillance. Across the state, 17 providers, ranging from family medicine to student health centers, participate weekly in the ILINet program. Iowa health care providers interested in joining this surveillance program should contact Scott Seltrecht at 515-281-4985 or Scott.Seltrecht@idph.iowa.gov for more information.

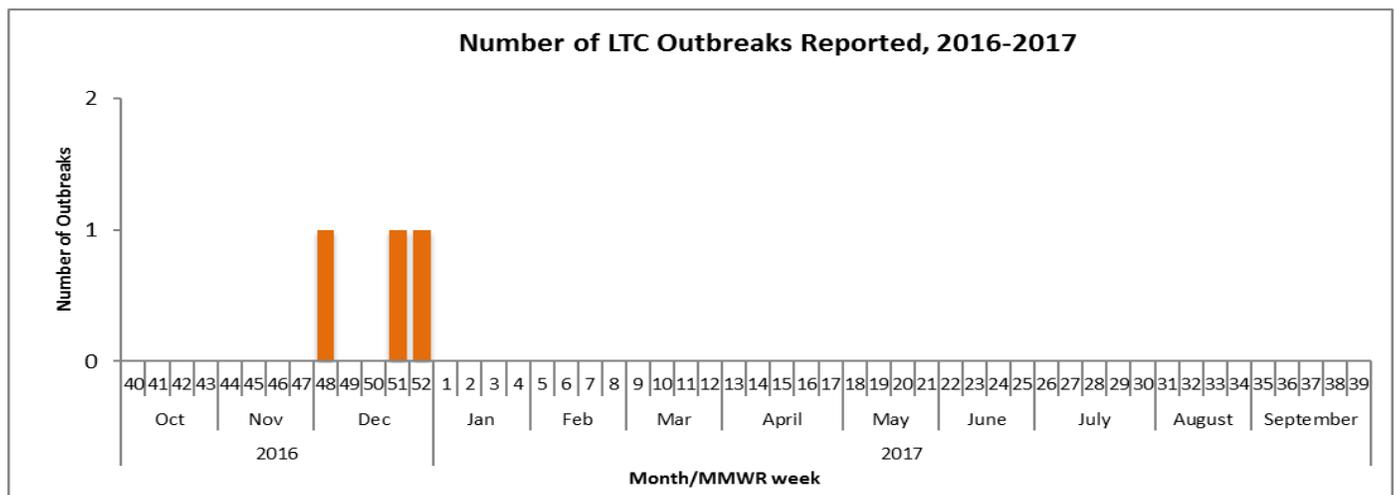
Week	%ILI	Total ILI	Age 0-4	Age 5-24	Age 25-49	Age 50-64	Age >64
Week 48, ending December 3	0.61	27	7	9	3	2	6
Week 49, ending December 10	0.41	14	1	6	3	1	3
Week 50, ending December 17	0.36	13	5	4	3	0	1
Week 51, ending December 24	0.64	14	2	0	5	5	2
Week 52, ending December 31	1.57	22	2	5	6	8	1



Long-term Care Outbreaks:

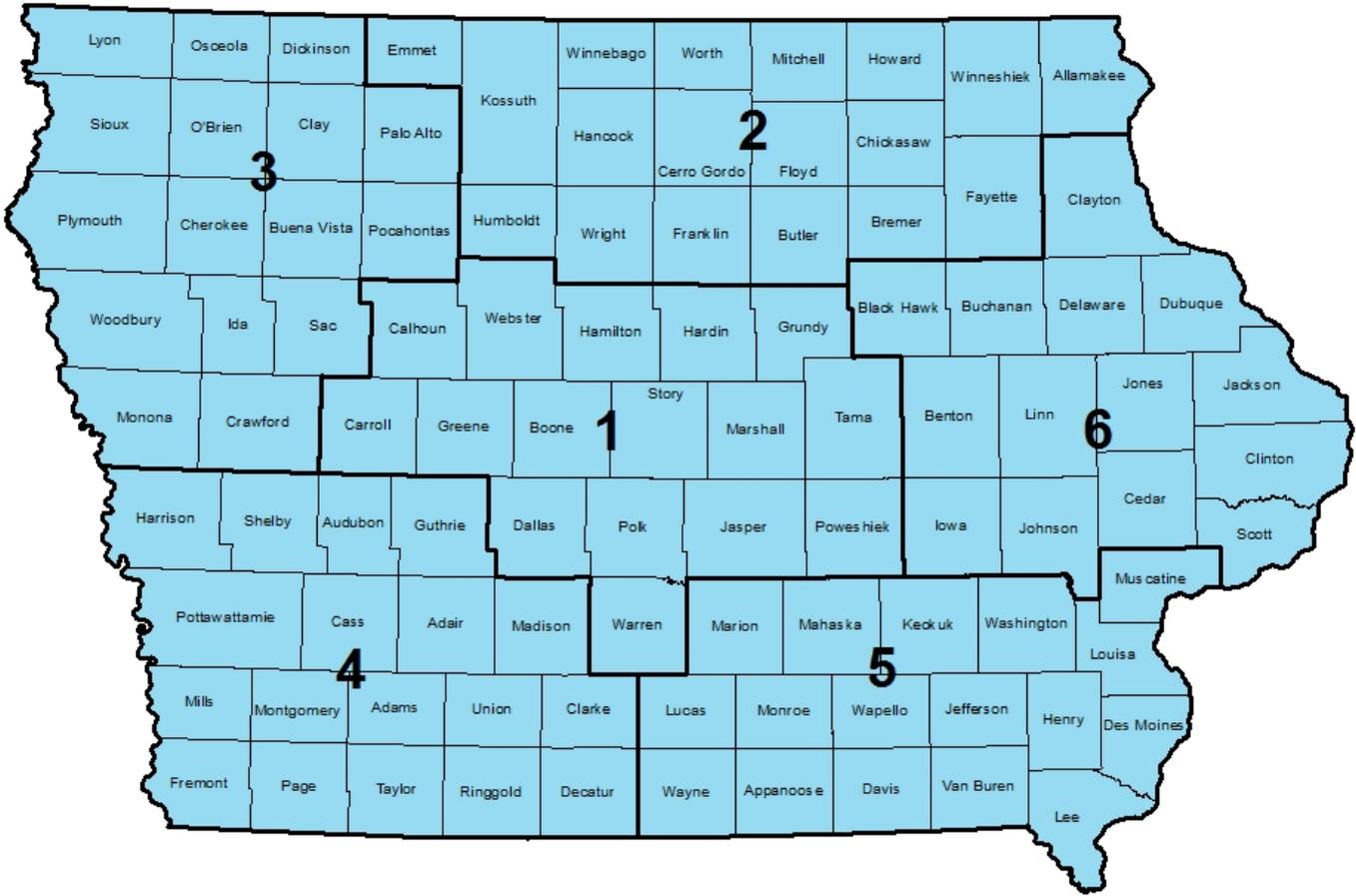
REGION*	CURRENT WEEK	CUMULATIVE (10/2/16 – CURRENT WEEK)
Region 1 (Central)	0	1
Region 2 (NE)	0	0
Region 3 (NW)	0	0
Region 4 (SW)	0	1
Region 5 (SE)	1	1
Region 6 (Eastern)	0	0
Total	1	3

*Region 1- Boone, Calhoun, Carroll, Dallas, Greene, Grundy, Hamilton, Hardin, Jasper, Marshall, Polk, Poweshiek, Story, Tama, Warren, Webster; Region 2- Allamakee, Bremer, Butler, Cerro Gordo, Chickasaw, Emmet, Fayette, Floyd, Franklin, Hancock, Howard, Humboldt, Kossuth, Mitchell, Winnebago, Winneshiek, Worth, Wright; Region 3- Buena Vista, Cherokee, Clay, Crawford, Dickinson, Ida, Lyon, Monona, O'Brien, Osceola, Palo Alto, Plymouth, Pocahontas, Sac, Sioux, Woodbury; Region 4- Adair, Adams, Audubon, Cass, Clarke, Decatur, Fremont, Guthrie, Harrison, Madison, Mills, Montgomery, Page, Pottawattamie, Ringgold, Shelby, Taylor, Union; Region 5- Appanoose, Davis, Des Moines, Henry, Jefferson, Keokuk, Lee, Louisa, Lucas, Mahaska, Marion, Monroe, Muscatine, Van Buren, Wapello, Washington, Wayne; Region 6- Benton, Black Hawk, Buchanan, Cedar, Clayton, Clinton, Delaware, Dubuque, Iowa, Jackson, Johnson, Jones, Linn, Scott.



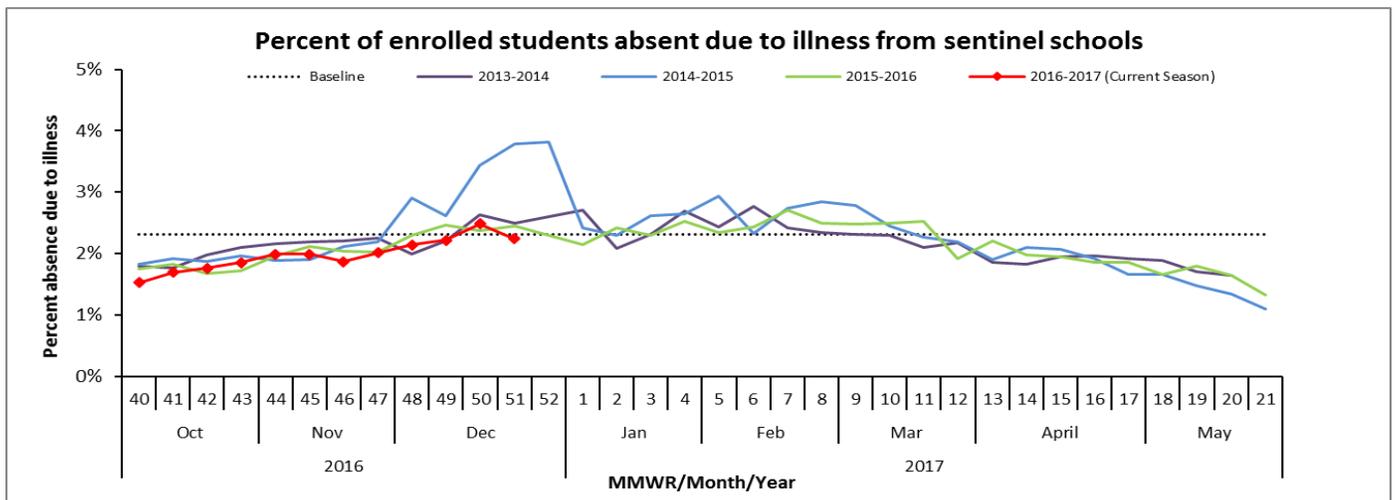
10 percent school absenteeism:

Schools (K-12) track and report outbreaks of influenza-like illness when the number of students absent with illness reaches or exceeds 10 percent of total student enrollment. Regional map with schools that have $\geq 10\%$ absence due to illness for this current reporting week is displayed below (region numbers in black, number of reporting schools by county in red).



School surveillance program:

Sentinel schools that participate in IISN voluntarily track and report absence due to all illness (including non-influenza illnesses) and the total enrollment each week.



Other resources:

Vaccine:

Influenza vaccine recommendation: idph.iowa.gov/immmtb/immunization/vaccine

CDC vaccine information: www.cdc.gov/flu/faq/flu-vaccine-types.htm

Vaccine finder: <http://vaccinefinder.org/>

Neighboring states' influenza information:

Illinois: www.dph.illinois.gov/topics-services/diseases-and-conditions/influenza/surveillance

Minnesota: www.health.state.mn.us/divs/idepc/diseases/flu/stats/index.html

Missouri: health.mo.gov/living/healthcondiseases/communicable/influenza/reports.php

South Dakota: doh.sd.gov/diseases/infectious/flu/

Wisconsin: www.dhs.wisconsin.gov/influenza/index.htm